

REMARKS

Reconsideration of this application, as presently amended, is respectfully requested.
Claims 1-14 are pending in this application. Claims 1-14 stand rejected.

Information Disclosure Statement

It is noted that an Information Disclosure Statement (IDS) was filed on March 23, 2004 in the above-referenced patent application. However, the outstanding Office Action mailed on August 11, 2004 did not include an initialed copy of form PTO-1449 indicating that the references submitted with the March 23, 2004 IDS have been considered and made of record by the Examiner. Applicants respectfully request that the Examiner consider the references submitted with Information Disclosure Statement filed March 23, 2004 and provide an initialed copy of Form PTO-1449 with the next communication.

Amendments to the Specification

Although the Examiner has not specifically objected to the specification, the Examiner requested that applicant check the specification and correct any errors that are discovered. The specification has been reviewed amended to correct minor informalities noted therein.

Approval and entry of the changes to the specification are respectfully requested.

Claim Amendments

The claims have been amended to correct minor informalities and to improve form.

Approval and entry of the changes to the claims are respectfully requested.

Rejection Under 35 U.S.C. §102

Claims 1 – 5 and 7 – 14 were rejected under 35 U.S.C. §102(b) as being anticipated by **Aharoni et al** (USP 6,014,694). For the reasons set forth in detail below, this rejection is respectfully traversed.

By way of background information, in order to display pictures of various kinds of formats on one display screen, a need arises for decoding circuits for performing decoding processing on respective pictures. However, when various decoding circuits for respective pictures are used, the circuit scale of the moving picture decoding apparatus becomes large and the apparatus becomes unreasonably expensive.

To overcome the above problem, picture data of plural channels can be subjected to time-division decoding using one decoding circuit. However, if the processing time for decoding data to be displayed in one frame takes longer than one frame period, the total processing amount exceeds the capability of the decoder, thereby disabling inputted picture data in all channels to be reproduced.

Thus, embodiments of the present invention are directed to a method and apparatus for decoding a moving picture, and, more particularly, to a digital TV receiver having a multi-channel display mode for displaying plural pictures simultaneously. More specifically, the present invention includes a header information processing section, which receives compression-encoded digital video stream signals from plural channels and extracts header information associated with a decode processing amount in each of said plural channels. A determination

section estimates the decode processing amount in each of said plural channels according to the header information to determine a reproduction scheme. A decoding section receives the video stream signals of the plural channels and performs one of normal reproduction and simple reproduction less than said normal reproduction in processing amount in each of the plural channels according to an output of said determination section.

The **Aharoni et al.** reference discloses a system for transporting video and audio over networks, such as the Internet or other types of networks that utilize the Internet Protocol (IP), wherein the available bandwidth of the network channel (e.g., telephone line, LAN) varies with time.

As shown in Fig. 1, a source of raw video data 12 is compressed by a video compression/file generator module 14 into multiple levels of varying quality. More particularly, as disclosed in column 8, lines 54-64 and column 10, lines 22-33 of **Aharoni et al.**, the video compression/file generator module 14 compresses the raw video source into frames (Key frame, I frame and P frame), each frame having five levels quality. Level 1 contains the least amount of data which represents the lowest video quality, while level 5 contains the greatest amount of data representing the highest quality of video. The compressed video is stored in a compressed video and audio file 16 and is accessed by a video server 18 when servicing clients 22 (see, e.g., column 7, lines 9-11).

As shown in Fig. 2, the video server 18 includes one or more receivers 30, one or more senders 32, and a controller 34. Each receiver 30 functions to receive video data from the video

data file that was previously generated by the video compression/file generator module 14. Each sender 32 measures the available bandwidth of the network connection between the video server 18 and the video client 22 to determine the appropriate video quality level (level 1 – level 5) to send over the connection (see column 7, line 44 – column 8, line 24, and particularly column 7, lines 57-60 and column 8, lines 8-17).

Initially, it is noted that the **Aharoni et al.** reference and the presently claimed invention are directed to two *very different* systems having different purposes. Specifically, the object of the **Aharoni et al.** reference is to optimize the bandwidth of a network channel by adjusting the *compression ratio of data transmitted* on a particular channel. That is, **Aharoni et al.** is related to compression *encoding* digital data for transmission to a network. In contrast, the presently claimed invention is directed to a system that *receives* plural channels of *compression encoded video stream signals* and maximizes the *decoding* capability of a decoder by controlling a decode processing mode of a decoder (i.e., normal reproduction mode and simple reproduction mode).

In other words, the **Aharoni et al.** reference is concerned with the *compression encoding* of a video signal to match the bandwidth of a network channel, while the presently claimed invention is concerned with the *decoding* of a plural streams of compression-encoded video signals for multi-channel display.

It is respectfully submitted that **Aharoni et al.** do not disclose or suggest the elements recited in claim 1.

Specifically, **Aharoni et al.** do not disclose or suggest the claimed “header information capture section receiving plural channels of compression-encoded video stream signals to extract header information associated with a decode processing amount in each of said plural channels.”

In contrast, the sections of **Aharoni et al.** cited by the Examiner as disclosing the “header information capture section” (i.e., column 9, lines 15-48 and column 13, lines 10-53) disclose the content of a Group of Pictures (GOP) and a bandwidth measuring method for measuring bandwidth of a network channel. However, the **Aharoni et al.** reference, is completely silent regarding a device that receives plural channels of compression-encoded video stream signals to extract header information associated with a decode processing amount in each of plural channels. Also note that Fig. 4, discussed in column 9, lines 15-48, shows one video stream, not plural.

Further, **Aharoni et al.** do not disclose or suggest a determination section estimating the decode processing amount in each of the plural channels according to the header information to determine a reproduction scheme, as recited in claim 1. The Examiner cites column 17, lines 39-67 as disclosing this feature. However, this portion of **Aharoni et al.** relates to the video client 22. While the cited portion of **Aharoni et al.** states that “the video client.... functions to decode a video stream transmitted by the server” (column 17, lines 42-44), this portion is silent regarding *estimating a decode processing amount for each of plural channels*. The cited portion simply relates to standard decoding of the video signal received by the client.

Finally, **Aharoni et al.** do not disclose or suggest a decoding section receiving the video stream signals of the plural channels to perform one of normal reproduction and simple reproduction less than the normal reproduction in processing amount in each of the plural channels according to an output of the determination section. The Examiner cites column 12, lines 40-60 for disclosure of this feature. However, this portion of **Aharoni et al.** relates to a sender 32 including a packet generator 102 to prepare packets for transmission over a network (see Fig. 9).

Thus, even if the plural senders 32 shown in Fig. 4 are considered to receive video stream signals from plural channels, the plural senders 32 do not perform one of normal reproduction and simple reproduction according to an output of a determination section, as claimed. Note, the Examiner considers the video client 22 to correspond to the determination section. However, although the video client 22 transmits bandwidth information to the video server 18, the video client 22 does not control the reproduction mode in each of plural channels.

In view of the above remarks, it is respectfully submitted that independent claim 1 and corresponding method claim 11 patentably distinguish over the prior art for the reasons discussed above. Moreover, dependent claims 2-10 and 12- 14 patentably distinguish over the cited prior art by virtue of their dependency on claims 1 and 11. Reconsideration and withdrawal of rejection under § 102 are respectfully requested.

Rejections Under 35 U.S.C. §103

Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over **Aharoni et al.** in view of **Fimoff** (USP 6,665,344). For the reasons set forth in detail below, this rejection is respectfully traversed.

Claim 6 depends from claim 1. It is respectfully submitted that **Fimoff** does not alleviate any of the deficiencies of **Aharoni et al.** discussed above with respect to claim 1, and therefore the combination of references does not result in the invention recited in claim 6. Reconsideration and withdrawal of the rejection under § 103 are respectfully requested.

CONCLUSION

For the reasons set forth in detail above, it is respectfully submitted that all pending claims are in condition for allowance. An indication of allowability of all pending claims is respectfully requested.

If the Examiner believes that there are any issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

In the event that this paper is not timely filed, applicant petitions for an appropriate extension of time. The fees for such an extension, or any other fees which may be due, may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

A handwritten signature in black ink, reading "William M. Schertler". The signature is fluid and cursive, with the first name "William" and last name "Schertler" clearly legible, and "M." in the middle.

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